REMARKS

Claims 1-34 were pending at the time of examination. No claims have been cancelled. The line numbering recommended by the Examiner has been added to the claims. The applicants respectfully request reconsideration based on the foregoing amendments and these remarks.

Objections to the Specification

The Examiner objected to the specification because of the use of various trademarks. The applicants have identified all the occurrences of proper names, and concluded that none of them is used in connection with any specific products. Thus, the proper names not used in a trademark fashion, but are rather used as names of providers of various products, in which case they do not need to have the ™ symbol attached to their names. Nevertheless, as the suppliers do need to be uniquely identified, the applicants have amended the specification to add the full names and locations of the companies that are mentioned in the specification.

The applicants believe that the specification is now in allowable form and submit that the objections to the specification be removed.

Claim Rejections – 35 U.S.C. § 102

Claims 1-34 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. US 2003/0058277 A1 to Bowman-Amuah et al. (hereinafter Bowman). The applicants respectfully traverse the rejection for the following reasons.

The applicants' invention relates to a message routing network for routing messages between applications. More particularly, the interchange of enterprise data is supported through an open platform for enterprise application integration (EAI). This open platform overlays a public network, such as the Internet, and does not require business entities to heavily invest in specialized software and resources. Thus, the invention enables the provision of extra-enterprise application integration as a service. This service facilitates EAI efficiently and affordably. More generally, the message routing network of the present invention can be used to support services provided by business-to-business enablers, system integrators, and other node enablers (Specification, paragraph [1081]).

Bowman, on the other hand, is directed to a view configurer in a presentation services patterns environment, which assigns a view to a particular activity. A notification is received that a startup event of an activity has occurred. A reference to a first instance of an object

created by the startup event of the activity is also received. When the notification and the reference have been received, a view to launch is determined based on predetermined criteria, which may include user preferences, an experience level of a user, security profiles, and/or workflow settings. The view is associated with the activity and displayed. Alternatively, the activity can run without a corresponding view. The activity can operate on a machine separate from a machine of an end user (Bowman, paragraphs [0009]-[0010]).

Turning now to the specific rejections of the claims, claim 1 recites:

> "invoking a second service during said logical routing of said message in said message routing network, said second service invocation having a second context that is defined at least in part by said first service"

That is, the second service is invoked <u>during the logical routing</u> of the message. Furthermore, the <u>first service defines at least part of the context for the second service</u>. The context can include, for example, an identity of the invoker service, arguments to the invoked service, a session identifier for a message, a topic for a message, a billing responsibility for the invocation, or any other information that can be used by the invoked service (Specification, paragraph [1097]). The Examiner rejected this step referring to Bowman paragraphs [0164], [3346], [3635], [3821], [3814], [3829], and [3836-3837], respectively, adding that Bowman discusses remote method invocation (RMI), and that in the cited sections of Bowman

> "a single work unit has the possibility of involving multiple invocations on another node wherein the invocations are interrelated towards a particular task but involving different contexts."

Paragraph [0164] of Bowman refers to FIG. 152, which shows "a flowchart for a method for maintaining a security profile throughout nested service invocations on distributed components." FIG. 152 is described in further detail in paragraph [4128] of Bowman. The applicants acknowledge that step 15210 of FIG. 152 shows that a request is received from the user to invoke a service on a component, and that the component in turn invokes an additional service of another component. However, the above claim limitation requires that "said second service invocation having a <u>second context</u> that is <u>defined</u> at least in part <u>by said first service</u>." In Bowman, the initiating service does not define any context. The purpose of Bowman is "maintaining a security profile throughout nested service invocations on distributed components." Thus, in Bowman, there is no need to define a second context (or part of a second context), since the goal is simply to <u>maintain</u> a security profile throughout the nested service

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invocations. Instead, the first service merely queries the "user context" for information about the user (step 15212). The obtained user information is then compared with an access control list for verifying that the user has access to the component in operation (that is, the "first service" in the applicants' terminology) (step 15214). The user information is also compared with an access control list for verifying that the user has access to the additional service of the other component in operation (that is, the "second service" in the applicants' terminology) (step 15216).

Paragraph [3346] of Bowman states that Object Request Brokers (ORBs) that use CORBA, DCOM, or Java RMI define an interface definition language (IDL) that is the format or contract of a stream and use stream-based communication as the communication medium. Streaming is a particular type of process for transferring time-sensitive data streams (e.g. video and/or audio) in real-time (*see*, for example, Bowman paragraph [1255]). Streaming (or any other method of transferring real-time data) is not recited anywhere in claim 1.

Paragraph [3635] of Bowman discusses how a Globally Addressable Interface (GAI), which is retrieved by a client from a naming or Trader service, passes through three phases:

> "Initial retrieval of a GAI from the Trader Service that is subsequently wrapped up in a proxy, 2) Invocations of businesses functions supported by the GAI and 3) Release of the GAI proxy. This often means a long-lived client will repeatedly ask the Trader Service for the same type of interface during its lifetime."

The fact that a GAI goes through three phases does not bear any significance with respect to the claimed limitation of a first service defining at least part of a context for a second service during the routing of a message through a message routing network. At the very least, the applicants would appreciate an explanation from the Examiner as to how this paragraph could anticipate or render obvious the claimed limitations.

Paragraph [3821] of Bowman states that a

> "... client may need to interact with a number of server components. From the user's perspective, one unit of work is being performed but it may involve multiple, discrete interfaces and multiple server invocations. Some business logic is required to manage the complex flow to complete this unit of work... Managing this flow is not the responsibility of the presentation logic but still needs to be executed on the client."

As was discussed above with respect to paragraph [0164] it is true that several server components or services may be involved in carrying out "one unit of work." In Bowman, the business logic for managing the flow is executed on the client. In the applicants' invention, on the other hand, the second service is not invoked by the client, but instead by the first service. The first service also defines at least part of the context for the second invocation. There is no discussion of contexts in this cited section of Bowman. Even if contexts were discussed, it

would be reasonable to assume that the business logic operating on the client is responsible for defining the context of the various server components with which the client interacts – not the first service, as required by claim 1.

Paragraph [3814] of Bowman provides an overview of a set of patterns designed to help "to guide application architects on strong, proven techniques to safely integrate client-side business logic with an application's Presentation Services." According to Bowman, an Activity pattern lays the groundwork for separating the Presentation Services and business logic on the client by assigning non-presentation logic to a type of object called an Activity. A View Configurer pattern helps to assign new views with their appropriate Activity. Finally, a User Interface Validator pattern describes how to implement customizable, extendable validation logic on a user interface. The applicants would like to point out that all of these "patterns" relate to various aspects of presenting data to a user, and none of them describe how services are invoked or any contexts that are associated with invoking services. Claim 1 is directed to a message routing method – not to a method of presenting data. The applicants respectfully request an explanation from the Examiner of how the subject matter disclosed in paragraph [3814] of Bowman possibly could anticipate any limitations of claim 1.

Paragraph [3329] of Bowman refers to the benefits of a "Fixed Format Stream Pattern" disclosed in FIG. 68 of Bowman. In the Fixed Format Stream pattern, a data structure on a first system is translated to a Fixed Format message (raw data) using a Fixed Format contract. The message is put in a stream and sent to a second system. The second system receives the Fixed Format Message (raw data) and uses its Fixed Format contract to recreate the data structure. The same process works in reverse when the second system responds to the message request (Bowman, paragraph [3327]). According to the cited paragraph [3329] one benefit with the Fixed Format Stream pattern is that the performance is better than with other variations of Stream-Based Communication since there is no time spent on look-ups or dynamic translation of the message.   Again, streaming is a particular type of process for transferring time-sensitive data streams (e.g. video and/or audio) in real-time, and is not recited or implied anywhere in claim 1.

Paragraphs [3836-3837] of Bowman refer to FIG. 125, which is an activity entity relationship diagram that shows how an Activity resides between the actual user interface and the business model and server components. As a result, multiple types of interfaces can exist on a single type of Activity, code can be reused, and no code will be lost if the presentation logic is replaced. A user interface can communicate directly with its associated activity, but an activity cannot directly communicate with any of its interfaces. Instead, an activity can communicate to

its interfaces through an event mechanism. Interfaces are set up as dependents of the activity and the activity sends events to all of the interfaces on it. Each interface can decide how to handle the event. Again, all the subject matter presented in paragraphs [3836-3837] of Bowman is directed to various aspects of presenting data. Nowhere in the cited paragraphs is it mentioned how services are invoked or any contexts that are associated with invoking services. Claim 1 is directed to a message routing method – not to a method of presenting data, and can thus not be anticipated by the subject matter in paragraphs [3836-3837] of Bowman.

The applicants respectfully submit that none of these cited paragraphs, alone or in combination, can reasonably teach or suggest the subject matter recited in claim 1. The Examiners statement that

> "In the sections cited in Bowman, a single work unit has the possibility of involving multiple invocations on another node in the network wherein the invocations are interrelated towards a particular task but involving various contexts."

may be correct, but from the discussion above it ought to be clear that this is not what is claimed in claim 1. For at least these reasons the rejection of claim 1 is unsupported by the art and should be withdrawn.

Claims 2-12 all depend from claim 1, and are therefore neither anticipated nor obvious for at least the reasons discussed above with respect to claim 1, and the rejections of claims 2-12 should be withdrawn.

Claim 13 is a *Beauregard* claim corresponding to claim 1, and is therefore neither anticipated nor obvious for at least the reasons discussed above with respect to claim 1, and the rejection of claim 13 should be withdrawn.

Claim 14 is a system claim with limitations similar to the limitations of claim 1, and was rejected with the same rationale as claim 1, along with paragraphs [4317-4318] of Bowman. These additional paragraphs of Bowman discuss how object identifiers are stored in order to provide object persistence for business objects. Neither claim 14 nor claim 1 contains any limitations reciting object identifiers or object persistence. Claim 14 is therefore neither anticipated nor obvious for at least the reasons discussed above with respect to claim 1, and the rejection of claim 14 should be withdrawn.

Claims 15-27 all depend from claim 14, and are therefore neither anticipated nor obvious for at least the reasons discussed above with respect to claim 14, and the rejections of claims 15-27 should be withdrawn.

Claim 28 is a method claim directed to a message routing method. Steps (b) and (c) are similar to the limitations of claim 1, and were rejected for the same reasons as claim 1. Step (a) recites:

> "invoking a first service that receives only logical delivery of an application message, said application message received over a public network, wherein said first service invocation has a first context defined at least in part by a first invoking service;"

The Examiner rejected this step referring to Bowman paragraphs [3157], [3199], [3287], and [1077], respectively. Paragraph [3157] states that "A set of logical operations may need to be initiated through some 'batch' scheduling means..." Paragraph [3199] discusses how filters consume and deliver their results incrementally, rather than consuming all of their input before producing output, and the benefits of using filters in terms of system scalability. Paragraph [3287] discusses how named constants in programming languages can belong to logical groupings, for example, how the constants STOCK, BOND, and OPTION are all types of financial instruments. Finally, paragraph [1077] discusses how a directory service "organizes, categorizes and names networked resources in order to provide a comprehensive picture of clients, servers, users, applications and other resources." The applicants respectfully submit that none of these cited paragraphs anticipate or render obvious the claimed limitation of "invoking a first service that receives only logical delivery of an application message" and that "said first service invocation has a first context defined at least in part by the first invoking service." Even if one were to equate the "batch scheduling means" of paragraph [3157] with "a first invoking service," as the Examiner appears to have done, none of the cited paragraphs would show how the first context is defined at least in part by the first invoking service (or the actual service invocation of the first service for that matter).
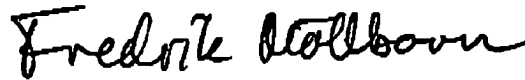
Steps (b) and (c) of claim 28 are neither anticipated nor obvious for at least the reasons discussed above with respect to claim 1. Thus, the applicants therefore respectfully submit that the rejection of claim 28 be withdrawn.

Claims 29-34 all depend from claim 28, and are therefore neither anticipated nor obvious for at least the reasons discussed above with respect to claim 28, and the rejections of claims 29-34 should be withdrawn.

Conclusion

The applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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